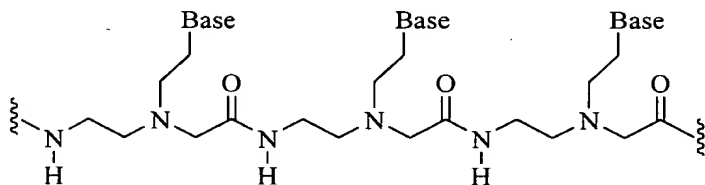
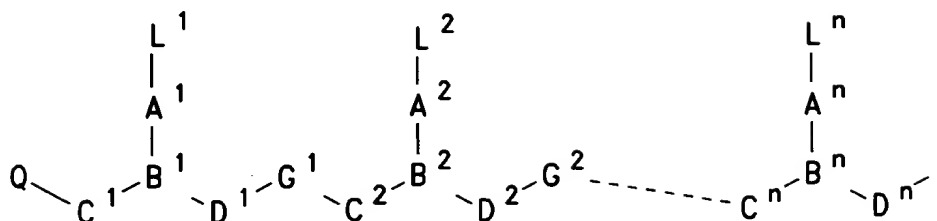


This is in response to the Notice of Non-Responsive Amendment mailed January 4, 2007. As explained below, Applicants believe that the paper filed on October 12, 2006, was fully responsive. In the following paragraphs, Applicants address the points raised by the Examiner and provide a detailed analysis of why the designated species is within the scope of the elected claims.

The Examiner also alleges that the 10-mer PNA3 has 10 bases but reads on a composition, even with a terminal Lys residue, having n=1 not n=2. This is simply incorrect. A PNA is well known to have a backbone of N-(2-aminoethyl)-glycine residues. The basic PNA structure is as follows.



Page 2 of 4



Formula I

In claim 22,  $n$  is at least 2. In order to obtain the PNA structure shown above (and the elected species PNA3), the following selections would be made from the choices available in claim 22:  $G$  is  $\text{-NHC(=O)-}$ ,  $C$  is  $\text{CH}_2$ ,  $D$  is  $(\text{CH}_2)_2$ ,  $A$  is  $\text{-C(O)CH}_2\text{-}$ , and  $L$  is the appropriate base.

One key to understanding that the structure represents multiple amino acid residues is consideration of variable “ $G$ ”. “ $G$ ” is  $\text{-NHC(=O)-}$  in the elected species. Each base resides between two “ $G$ ” groups or a “ $G$ ” group and either a “ $Q$ ” or “ $I$ ” group. On one side of the base, the “ $NH$ ” portion represents the amino end of the amino acid. On the other side of the base, the “ $CO$ ” portion represents the acid end of the amino acid. Even ignoring  $Q$  and  $I$ ,  $n$  is at least 8 for the 10-mer PNA3, because 8 bases reside between two  $G$  groups.<sup>1</sup> This satisfies the criteria of  $n$  being at least 2.

The designation of Sequence No. 5 (PNA3) as the species to assist with initial examination is consistent with our election of Group I (claims 12-19 and 22) relating to a nucleic acid mimic of formula I.

Applicants reassert the designation of Sequence ID No. 5 as the designated species. Further, Applicants request entry of the amendments submitted with our October 12, 2007 response and substantive examination of the pending claims.

---

<sup>1</sup> “ $Q$ ” can be selected to be  $\text{CO}_2\text{H}$  and “ $I$ ” can be selected as an amine group. Taking these groups into consideration,  $n$  is 10 for PNA3.

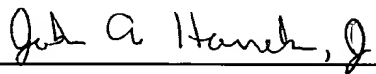
DOCKET NO.: ISIS-2447  
Application No.: 09/142,326  
Office Action Dated: January 4, 2007

PATENT

Applicant believe that this response, as well as our previous response, is fully responsive.  
If the Examiner has any questions, he is invited to contact the undersigned.

Respectfully submitted,

Date: February 1, 2007

  
\_\_\_\_\_  
John A. Harrelson, Jr., J.D., Ph.D.  
Registration No. 42,637

Woodcock Washburn LLP  
Cira Centre  
2929 Arch Street, 12th Floor  
Philadelphia, PA 19104-2891  
Telephone: (215) 568-3100  
Facsimile: (215) 568-3439